

Attorney's Docket No.: 14083-002001

REMARKS

Reconsideration and allowance of the above referenced application are respectfully requested.

Claims 61, 62 and 61-65-68 standard objected to based on informalities. In response, claim 61 is canceled. Proper antecedent has been added to claims 62, and the word "are" has been added. Proper antecedent has been added to claim 65. Antecedent in claims 67 has also been corrected. The signal in claim 68 has been similarly corrected.

The drawings stand objected to as allegedly not showing the subject matter of claim to. This contention is respectfully traversed. In fact, claim 2 defines that the smaller outside diameter coil has two or more windings. This is clearly shown in figure 3, for example. Claims 1-3, 61-69 stand rejected over Neff in view of the admitted prior art and common knowledge in the art. This contention is respectfully traversed, and with all due respect, nothing in the prior art teaches, suggests, or shows the subject matter which is claimed.

Initially, the official action admits that "Neff does not explicitly disclose a means for reducing noise". The admitted prior art describes reducing Barkhausen noise and electrical noise in conventional LVDTs (see the first full paragraph on page 5). It also describes other techniques of removing noise.

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Even taking the rejection at face value: that the admissions in the specification would make it obvious to reduce Barkhausen noise in a conventional LVDT, those admissions would not explain how specifically to do that. Other than the specific may that are taught. The admissions on page 5 describes by increasing the drive current (first full paragraph line 4 and this describes that it's not really effective at dealing with Barkhausen noise) or using amorphous magnetic materials.

Therefore, the hypothetical combination of Neff in view of the admitted prior art would include Neff, with a Barkhausen noise reduction system, where the Barkhausen noise reduction system uses amorphous magnetic material.

As also explained on page 5, however, this combination would produce disadvantages. Since Barkhausen noise is a fundamental property of ferromagnetic materials, the amorphous magnetic materials have been ultimately ineffective. Therefore, the hypothetical combination of Neff in view of the admitted prior art would teach Neff but modified to use an amorphous magnetic material. This is entirely different than the claims, which define non-ferromagnetic coil forms.

Moreover, rejection of myths that Neff does not teach the coil forms being non-ferromagnetic, but alleges this to be "obvious". This is, in effect, an obvious to try standard. Nowhere in the prior art is there any teaching or suggestion of

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improvement of reduced Barkhausen noise by using a non-ferromagnetic coil form. The suggestion that one having ordinary skill in the art would have found it obvious to use this is based on hindsight, since the prior art never teaches this. In fact, the admitted prior art suggests that the coil form should be amorphous magnetic to reduce the Barkhausen noise, not "non-ferromagnetic" as claimed. Therefore, claim 1 should be allowable for these reasons.

Claim 1 further defines that the electronic circuitry has an RMS noise representing less than 2.1 nm of movement between the coil. This is quite unprecedented, and nothing in the prior art suggests such results. This is not taught or suggested by Neff or the admissions. Claim 63 is even further distinguishable for analogous reasons.

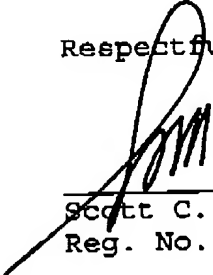
Each of the remaining claims defines similar subject matter, and should be allowable for analogous reasons.

The view of the above amendments, therefore, all of the claims should be in condition for allowance. A formal notice to the effect is respectfully solicited.

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Applicant asks that all claims be allowed. Applicant hereby petitions for a one-month extension of time. Please apply the extension fee and any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 7/18/05  
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Scott C. Harris  
Reg. No. 32,030

Fish & Richardson P.C.  
12390 El Camino Real  
San Diego, California 92130  
(858) 678-5070 telephone  
(858) 678-5099 facsimile

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